

Mountain Lions IN MISSOURI

Fact or Fiction?



Serving nature and you™

The Mountain Lion Response Team confirms reports and busts myths.

by Dave Hamilton

One hot wildlife question being debated in coffee shops, sporting goods stores and Internet chat sites across Missouri goes something like this: “Do we have mountain lions here or not?” The short answer is yes, sometimes. But we have far fewer than rumors would lead you to believe.

What we do not have is any evidence of a viable, breeding population of mountain lions in Missouri. As a result, the Missouri Department of Conservation has changed the state classification of the species from endangered to extirpated. An extirpated species is one that is considered extinct as a viable breeding population from a portion of its historical range.

The Conservation Commission has determined that, based on considerations of human safety and risk to livestock, it is undesirable to have a breeding population of mountain lions in Missouri. Therefore, the Department of Conservation will not encourage the species to reestablish itself in the state. Despite rumors, the Department has never stocked mountain lions and will not do so in the future.

Once there were lions

Although mountain lions, sometimes called cougars, pumas, panthers or catamounts, were common in Missouri and elsewhere in the Midwest prior to European settlement, they were eradicated during the 19th century. As the countryside was settled and developed, the large predators were shot. People also killed almost all of the deer, the mountain lions’ primary food source.

The last native wild mountain lion in Missouri was killed in 1927. They were extirpated from Iowa by 1867, Nebraska by 1890, Kansas by 1904 and from Wisconsin by 1908. Though populations of mountain lions survived in remote mountainous terrain in western states, no verifiable evidence exists to suggest that they survived anywhere in the Midwest, outside of the Black Hills of South Dakota.

However, many Missourians probably know someone who claims to have seen a mountain lion recently. Or, they’ve heard rumors of mountain lion sightings offered as proof that the species has reclaimed old habitats, or never really disappeared. Hundreds of eyewitness accounts, second-hand testimony and other stories circulate in communities across Missouri, causing lots of discussion and concern. In the search for evidence, however, it is important to distinguish between a reported sighting and a “confirmed” mountain lion report.



NOPPADOL PAOTHONG

Only 10 mountain lions have been documented in Missouri since 1994.



The lion trackers

The Mountain Lion Response Team was formed in 1996 to investigate sightings, respond to calls and collect and analyze physical evidence of the presence of mountain lions in Missouri. We provide information and training to Conservation Department employees and service to the public. We have had training from mountain lion experts in Wyoming, Texas, North Dakota, South Dakota and Florida.

One important lesson learned in our training is that mountain lions are so secretive that they are rarely "seen" by people. However, physical proof of their existence in these other states is easily found. Our search for hard evidence here in Missouri, such as photos (verified), cougar carcasses, scat with cougar DNA, videos, tracks, etc., has turned up a few, but not many, confirmed mountain lions. Difficult as it may be to obtain, hard evidence is required before we can say, "Yes, we have a confirmed mountain lion." It is important that we maintain credibility with the public, and it would be irresponsible to make statements about







the presence of a large predator like the mountain lion without solid evidence.

We have had only a handful of confirmed mountain lions in Missouri, despite hundreds and hundreds of reports. There have been 10 confirmed mountain lions since 1994. One of these was hit by a car near downtown Kansas City in 2002, and another in 2003 near Fulton.

Missing from Missouri is the physical evidence that is left by a viable, breeding population of mountain lions. In the area of every documented population in the U.S., biologists are able to locate numerous tracks, prey kills, scrapes (made when lions scent-mark their territories), and photos, which are often available from the many motion-detecting game cameras that hunters use to monitor trails. Also, frequent mountain lion road-kills turn up, of all ages and of both sexes.

South Dakota estimates they now have a population of 165 mountain lions in the Black Hills, and 40 mountain lion carcasses turned up last year. More than 20 died in vehicle collisions in the last two years alone, despite the area's relatively low human population and road density.

Characteristics of Mountain Lion vs. Dog Tracks

<p>A. narrow claw marks rarely present</p> <p>B. tear-drop shaped toes</p> <p>C. front edge of heel pad is flat</p>			<p>A. blunt claw marks usually present</p> <p>B. rounded toes</p> <p>C. front edge of heel pad is rounded</p>
<p>Front</p>   <p>Hind</p>	<p>D. two distinct indentations between three lobes</p> <p>MOUNTAIN LION</p> <p>A. Claw marks generally absent. If present, they will be sharp and narrow.</p> <p>B. Four tear-drop shaped toes, grouped asymmetrically.</p> <p>C. Trapezoidal-shaped heel pad.</p> <p>D. Three-lobed heel pad with two indentations along rear margin.</p>	<p>D. no distinct indentations or only two outside lobes</p> <p>DOG</p> <p>A. Toenail prints generally present will be broad and blunt.</p> <p>B. Four, round-shaped toes, grouped symmetrically.</p> <p>C. Triangular-shaped heel pad.</p> <p>D. Heel pad lacks distinct indentations and three-lobed appearance.</p>	<p>Front</p>   <p>Hind</p>

So if we had many mountain lions at all in Missouri, we would almost certainly have more evidence than we do now.

Biologists in Arkansas and Oklahoma have reached the same conclusion as we have after years of searching: They have documented wandering individuals, but no evidence yet of viable populations. The nearest populations are in Texas, Colorado, Wyoming and South Dakota. New evidence suggests that they are in the process of colonizing parts of western Oklahoma, northwest Nebraska, and western North Dakota.

Some sightings explained

But what about the hundreds of sightings reported in Missouri? Some of the sightings turn out to be other animals, and mistaken sightings are rampant.

Dog tracks and dogs themselves are the number one and number two cases of misidentification. Tracks are difficult for most people to distinguish because subtle differences in the details of the tracks distinguish dogs from mountain lions (dog tracks usually show claw marks, where cat tracks rarely do), and dogs can leave tracks larger than mountain lions. Some reports are accompanied by photos and videos, and upon close inspection we find that they are photos of bobcats, coyotes, foxes, house cats and other animals. Even in the western states where thousands of mountain lions are present, bona-fide sightings are rare and misidentification is the rule rather than the exception.

The recent bobcat population expansion in northern Missouri is partly responsible for some mistaken sightings of mountain lions. Many people aren't familiar with bobcats, and the casual observer may confuse them with mountain lions. Their tracks look similar except for size, and a bobcat can kill an adult-sized deer, hiding the carcass under a pile of leaves or grass like a mountain lion might. Freshly killed deer carcasses have been submitted as evidence, but analysis has revealed bobcat attack rather than mountain lion.

Is that what I think it is?

The mountain lion is a large, slender cat with a small head, small, rounded ears that are not tufted, powerful



Dog tracks are similar to mountain lion tracks, but may be larger. One of the easiest ways to distinguish the two is by looking for claw marks. Dog tracks have claw marks, but mountain lion tracks rarely do.

shoulders and hindquarters, and a cylindrical tail that is long and heavy. The tail has a small dark hook in the end and usually hangs down next to the hind legs. The body fur is short and soft.

The adult mountain lion is distinguished from the bobcat by its large size (total body length of 60 to 102 inches); uniform coloration of grizzled gray or dark brown to buff or light orange; and a tail length of 21 to 35 inches (up to half its body length). A male mountain lion weighs 140 to 160 pounds, while a female weighs 90 to 110 pounds.

Though a popular myth, black panthers do not exist in the wild in North America. A black panther is a melanistic version of a large cat, usually an African leopard or a jaguar. These can sometimes be seen in zoos. Melanistic refers to the unusual black coloration produced by a hereditary, genetic mutation. There has never been a black mountain lion documented anywhere in their range.

Mountain lions prefer dense cover or rocky, rugged terrain, generally in areas of low human habitation, or regions of dense swamps. The size of the home range is typically 50 to 75 square miles for females and 90 to several hundred square miles for males. Mountain lions are generally nocturnal and are active near dawn and dusk. They feed on deer and other medium-sized and

large mammals. On average, a typical adult lion kills and consumes about one deer per week.

Female mountain lions have litters of two to three kittens. Blind and 12 inches long at birth, they weigh about 1 pound. They are buff, spotted with black, and have dark rings on their tails. Once they stop nursing, the female carries food to them until they accompany her at about 2 months of age. The kittens lose their spots gradually. They are usually gone by 18 months of age, when young lions begin to leave home.

Adult females often share territory with their female offspring, although some disperse. Adult males are solitary and territorial and may kill other males and kittens they encounter. This forces young males to leave these territories in search of suitable, unoccupied areas.

Mountain lion populations in western states have grown recently, and as the habitats fill up, new animals born each year have to travel farther to locate suitable living space. In the Midwest and eastern Texas, biologists have confirmed physical evidence of mountain lions at least 65 times since 1990.

Recently several mountain lions made headlines when they were killed by cars, trains or police officers in suburban neighborhoods in Midwestern towns. Some biologists believe that they made use of travel corridors along the Missouri River and other rivers. Young male mountain lions have wandered into Fulton, Missouri; Kansas City, Missouri; South Sioux City, Nebraska; Yankton, South Dakota; and Omaha, Nebraska. In central Iowa, hunters killed one young male lion and a trail camera caught another on film.

Biologists in South Dakota estimate that each year



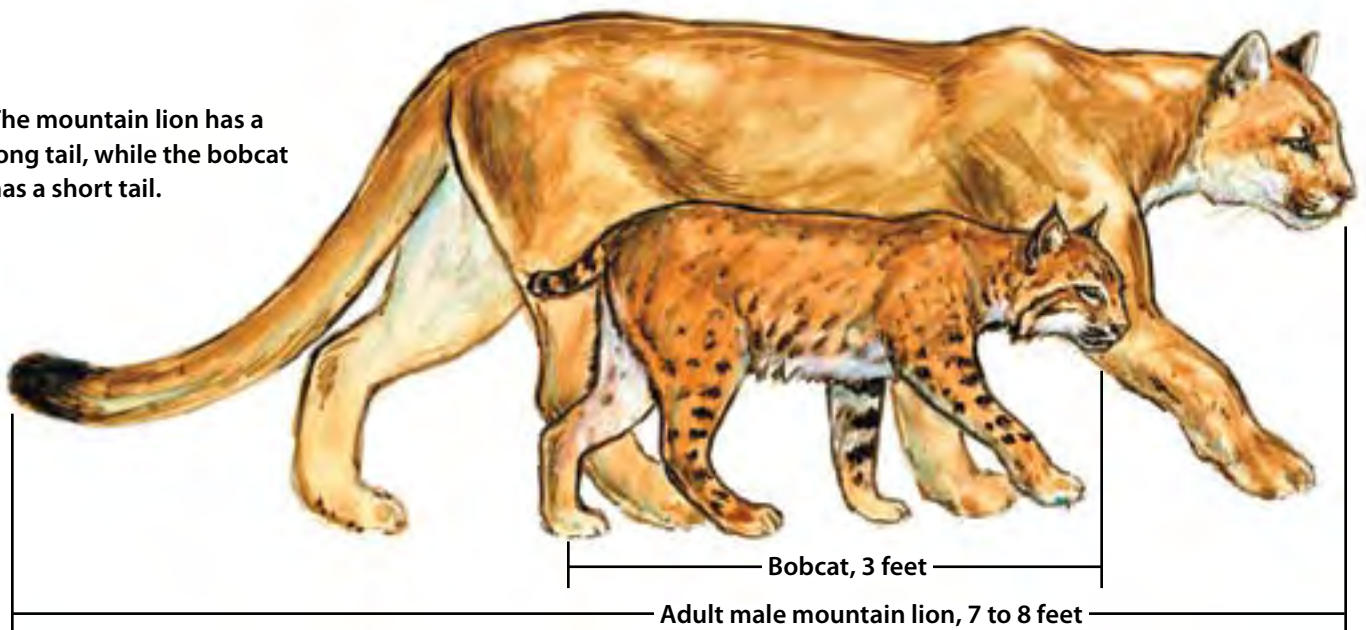
NOPPADOL PAOTHONG

Bobcats are often mistaken for their larger mountain lion relatives. They share many physical and behavioral traits.

20 to 25 yearling mountain lions—mostly males—are leaving the Black Hills, forced out by adult males that already occupy the best habitats. One animal was fitted with a radio collar that had been attached during a study of lion survival. It moved 667 miles before it was struck by a train in northern Oklahoma. Another radio-marked male traveled more than 500 miles into northern Minnesota. A recent report documented a radio-marked female from Utah that moved more than 830 miles, roaming through parts of Wyoming and Colorado.

This evidence supports the fact that mountain lions do roam and that some of these animals have made it to Missouri. Mountain lions that escape from captivity could be another source of sightings. Nearly 30 Missourians have permits to have mountain lions in captivity.

The mountain lion has a long tail, while the bobcat has a short tail.

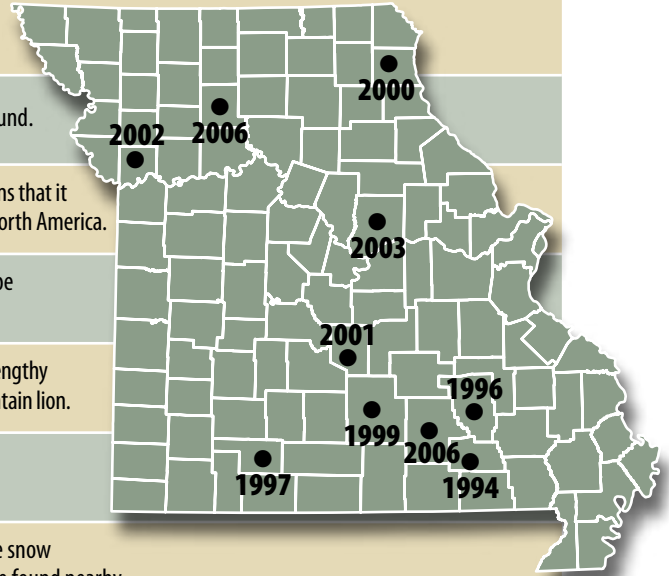


MARK RAITHEL

Confirmed Instances of Mountain Lions in Missouri

The following instances have been confirmed by the MDC Mountain Lion Response Team. However, the origin of these animals (i.e. escaped/released captive or pioneer from other state) is unknown.

2006—December <i>Livingston County</i>	A photograph of a probable sub-adult was taken by a motion-activated game camera.
2006—November <i>Shannon County</i>	Tracks and deer carcass characteristic of a mountain lion kill were found.
2003—August <i>Callaway County</i>	An approximately 1-year-old male road kill. There were no obvious signs that it was formerly a captive animal. DNA analysis revealed its origin to be North America.
2002—October <i>Clay County</i>	A 2- to 3-year-old male road kill. DNA analysis revealed its origin to be North America.
2001—December <i>Pulaski County</i>	A photograph was taken by a motion-activated game camera. After a lengthy evaluation, it was determined that it was likely a small, sub-adult mountain lion.
2000—December <i>Lewis County</i>	A video was taken by a deer hunter from a tree stand.
1999—January <i>Texas County</i>	An adult-sized lion was treed by a rabbit hunter's dogs. Tracks in the snow (photos taken) and two deer carcasses characteristic of lion kills were found nearby.
1997—January <i>Christian County</i>	A video was taken by a property owner. The animal's behavior implied it had once been held in captivity.
1996—November <i>Reynolds County</i>	A video was taken by a conservation agent of a mountain lion with a deer carcass.
1994—December <i>Carter County</i>	A small adult female was treed and shot by two raccoon hunters near Peck Ranch CA. The carcass was never recovered, but a photo was obtained of the animal on a truck tailgate. Each hunter was fined \$2,000. In Nov. 1998, a deer hunter found the skinned pelt of a small adult, a female with head and feet attached, near a remote Texas County road. Evidence suggests this is the same animal killed in Carter County.



For now, the official population status of mountain lions in Missouri is extirpated. However, because of their dispersal patterns, mountain lions may occasionally enter the state. Most of them will likely be males, but an occasional female may make it to Missouri. Rumors will continue to abound, so carefully consider the evidence, and be aware that the Department will be diligent to make our discoveries well publicized.

Safety and reporting

The prospect of increasing mountain lion populations in Missouri causes a feeling of alarm for some folks. They cite the quickly growing bobcat population in the Midwest and are concerned that mountain lions could do the same thing if left unchecked. Missouri annually ranks among the top states for the number of cattle raised, and the potential presence of mountain lions causes much concern among producers. There have been no reports of mountain lions attacking people in Missouri, and no

evidence of attacks on livestock or pets.

Our *Wildlife Code* continues to protect mountain lions from indiscriminant shooting, but also allows citizens to protect themselves and their property. It states, "*Mountain lions attacking or killing livestock or domestic animals, or attacking human beings, may be killed without prior permission, but the kill must be reported immediately to an agent of the department and the intact mountain lion carcass, including pelt, must be surrendered to the agent within twenty-four (24) hours.*"

If you have evidence of a mountain lion, or a sighting, please contact the Missouri Department of Conservation. If you have physical evidence, you can also e-mail the Mountain Lion Response Team at mountain.lion@mdc.mo.gov.

For more information on mountain lions, go to www.missouriconservation.org and type "mountain lion" under "search." ▲



**Copyright © 2007 by the Conservation Commission of the State of Missouri.
Reprinted from the June 2006 *Missouri Conservationist* magazine.**

www.mdc.mo.gov

Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, nationality, sex, age or disability. Questions should be directed to the Department of Conservation, P.O. Box 180, Jefferson City, MO 65102, (573) 751-4115 (voice) or 1-800-735-2966 (TTY), or to the U.S. Fish and Wildlife Service Division of Federal Assistance, 4401 N. Fairfax Drive, Mail Stop: MBSP-4020, Arlington, VA 22203.